Applicant(s)/Patent under Reexamination Application/Control No. Index of Claims 10/649,687 MATSUSHIGE ET AL. Art Unit Examiner Gary J. Portka 2188 (Through numeral)
Cancelled Rejected Non-Elected **Appeal** N 0 Restricted Interference Objected Allowed

| Cla             | aim      |          |          |                    | D         | ate   |   |   |                    | ]    | Cla                    | aim      |              | •                                | (               | Date   |         |          |                 |               | CI       | aim_       |          |        |          | Date         | е        |                         |               |          |
|-----------------|----------|----------|----------|--------------------|-----------|---|---|---|--------------------|------|------------------------|----------|--------------|----------------------------------|-----------------|--|---------|----------|-----------------|---------------|----------|------------|----------|--------|----------|--------------|----------|-------------------------|---------------|----------|
|                 | <u></u>  | 30/01/2  |          |                    |           |   |   |   |                    |      |                        | -a       |              |                                  |                 |  |         |          |                 |               |          | <u> </u>   |          |        |          |              |          |                         |               | 1        |
| Final           | Original | 13       | <b>.</b> |                    |           |   | 1   |   |                    |      | Final                  | Original |              |                                  |                 |  |         | 1        |                 |               | Final    | Original   |          |        |          |              |          |                         |               |          |
| i i i           | ٦        | 2        |          |                    |           |   |   | -   |                    |      | ΙŒ                     | Ğ        | -            |                                  |                 |  |         | 1        |                 |               | ίŢ       | <u> </u>   |          |        |          |              |          |                         |               |          |
|                 |          | 7        |          |                    | _         | $\perp$   | 4   | _   | $oldsymbol{\perp}$ |      | L                      |          |              | 4_                               | Ш               | Ш  | $\perp$ | ┷        | L               |               |          |            |          | _ _    | <u> </u> | _            |          | $\Box$                  |               | ┙        |
| 1               | 1        | =        |          | _                  | _         | _   | _   | _ _   | ╀                  | Į    | <u> </u>               | 51       | _            |                                  | Ш               | $\sqcup$   | $\bot$  |          | L               |               |          | 101        |          | _ _    | <u> </u> | _            |          | Ц                       | _             | _        |
| 2               | 2        | Ξ        | $\dashv$ |                    |           | -   | -   | _   | ╄                  |      |                        | 52       | _            | _                                | Ш               |  | 4       | <b>-</b> | _               |               |          | 102        | _        | ┦      | ╄        | <del> </del> |          | Ш                       | _             | _        |
| <u>_</u>        | 28       | _        | $\dashv$ |                    | -         | -   | -   |   | ╀                  |      |                        | 53       | - -          | -                                | Н               | $\vdash \vdash$  | 4-      |          | _               |               |          | 103        | $\perp$  | +      | ╄        | -            |          | Ш                       | -             | 4        |
| 3               | 4        | 3        |          |                    | -         | -   |   |   | +-                 | ł    |                        | 54       | +            |                                  | $\vdash$        | $\vdash$   | 4       | +        | _               |               |          | 104        | +        | +      | +-       | -            |          | $\sqcup$                | -             | 4        |
| <del></del>     | 8        | _        | $\vdash$ |                    | $\dashv$  | +   | +   | -   | ╁                  | ł    |                        | 55       | -            | +                                | Н               | $\dashv$   | 4       |          | ┞               |               |          | 105        | +        | +      | +        |              | _        | $\dashv$                | -             | 4        |
| 4 5             | 6<br>7   | = <      | $\dashv$ | -                  | +         | -+  | +   | +   | ╁                  | ł    | <del> </del>           | 56<br>57 | +            | +                                | Н               | $\vdash$   | +.      | +        | ⊢               |               |          | 106<br>107 | +        |        | +        | +-           | -        | $\dashv$                |               | $\dashv$ |
| 6               | 8        | Ŧ        | $\dashv$ | ┥                  | $\dashv$  | $\dashv$  | $\dashv$  | +   | ╁                  | 1    | $\vdash$               | 58       | +            | ╫                                | Н               | -  |         |          |                 |               |          | 107        | ┿        | ╁      | +        | ┼-           | _        | $\dashv$                | +             | ┨        |
| 19              | 9        | H        | $\dashv$ | $\dashv$           | $\dashv$  | +   | +   | +   | ╁                  | ł    | -                      | 59       | +            | +                                | Н               | $\dashv$   | +       | +        | ⊢               |               |          | 109        |          |        | ┿        | ┼            |          | $\dashv$                |               | $\dashv$ |
| 1               | 10       | +        | $\vdash$ | -                  | $\dashv$  | +   | +   | +-  | ╁╾                 |      |                        | 60       | +            | ╁                                | Н               | $\vdash$   | -       |          | $\vdash$        |               |          | 110        | $\dashv$ | ┿      | ╁╴       | ╫            | -        | $\dashv$                | +             | $\dashv$ |
| 9               | 11       | +        | -        | -                  | $\dashv$  | $\dashv$  | +   | ╁   | +                  | 1    |                        | 61       | +            | +                                | Н               | -  | -       | +        | H               |               |          | 111        | +        | +      | ╁        | $\vdash$     | Н        | $\vdash$                |               | $\dashv$ |
| 10              | 12       | t        | -1       | $\dashv$           | -+        | $\dashv$  | $\dashv$  | +   | +                  | liii |                        | 62       | +            | +                                | $\vdash$        | $\dashv$   | +       | +        | Н               |               |          | 112        | $\dashv$ | +      | ╁        | +            | -        | $\dashv$                | $\dashv$      | $\dashv$ |
| II              | 13       | =        | -        | ᅱ                  | +         | $\dashv$  | - -   | $\dashv$  | $\top$             | l    |                        | 63       | +            | +                                | $\vdash$        | $\dashv$   | +       | +        | Н               |               |          | 113        | +        | +      | +        | $\vdash$     | H        |                         | +             | $\dashv$ |
|                 | 14       |          | $\dashv$ | $\dashv$           | $\dashv$  | $\dashv$  | $\dashv$  | $\dashv$  | T                  |      |                        | 64       | +            | +                                | Н               | 1  | $\top$  | $\top$   | П               |               |          | 114        | $\dashv$ | $\top$ | T        | Н            | Н        |                         | $\dashv$      | $\dashv$ |
|                 | 15       |          | -        | $\dashv$           | $\dashv$  | $\top$  | 十   | $\top$  | 1                  | 1    |                        | 65       | $\dashv$     | $\top$                           | П               | $\dashv$   | ┪       | $\top$   | П               |               |          | 115        | 十        | $\top$ | +-       | $\vdash$     | $\vdash$ | $\dashv$                | _             | 1        |
|                 | 16       |          | $\neg$   | $\neg$             | $\neg$    | 十   | $\top$  | $\neg$  | 1                  | 1    |                        | 66       | $\top$       | 1                                | $\sqcap$        |  | 1       | 1        | П               |               |          | 116        | $\top$   | $\top$ | 1        | $\sqcap$     | $\dashv$ | $\dashv$                | $\neg$        | 1        |
|                 | 17       |          | 一        | J                  | $\exists$ | $\top$  |   |   |                    | Ш    |                        | 67       | $\top$       | $\top$                           |                 |  | 1       | $\top$   | П               |               |          | 117        | $\dashv$ | 1      | 1        | П            | $\neg$   |                         | $\dashv$      | 1        |
|                 | 18       |          | $\Box$   | T                  | $\neg$    |   | 7   |   |                    |      |                        | 68       | 一            | 1                                | П               |  |         | 1        |                 |               |          | 118        |          |        | T        |              |          |                         | T             | 7        |
|                 | 19       |          |          |                    |           |   | $\Box$  |   |                    |      |                        | 69       | T            |                                  | П               |  | T       |          | П               |               |          | 119        | T        | $\top$ |          |              |          | $\sqcap$                |               | 7        |
|                 | 20       |          |          |                    |           |   |   |   |                    |      |                        | 70       |              |                                  |                 |  |         |          |                 |               |          | 120        |          |        | 1        |              |          |                         | $\neg \vdash$ | 1        |
|                 | 21       |          |          |                    |           |   |   |   |                    |      |                        | 71       |              |                                  | П               |  |         |          |                 |               |          | 121        |          |        |          |              |          |                         |               | 7        |
|                 | 22       |          |          |                    |           |   |   |   |                    |      |                        | 72       |              |                                  |                 |  |         |          |                 |               |          | 122        |          |        |          |              |          |                         |               | ]        |
|                 | 23       |          | _        |                    | _         | $\perp$   | ┸   |   |                    |      |                        | 73       |              |                                  |                 |  |         |          | Ш               |               |          | 123        |          |        | L        |              |          | $\Box$                  |               | ]        |
|                 | 24       |          |          | _                  | _         |   | ᆚ   | 丄   | _                  |      |                        | 74       | ↓            |                                  | Ш               |  | $\perp$ |          | Ш               |               |          | 124        | ┸        | ┸      |          | Ш            |          |                         |               | ╛        |
|                 | 25       |          | 4        | 4                  | 4         | _   | _   | ┸   | _                  |      |                        | 75       | $\bot$       |                                  | Ш               |  | $\perp$ |          | Ш               |               |          | 125        | _        |        | _        | Ш            |          | $\perp$                 | $\perp$       | ╛        |
|                 | 26       |          | 4        | _                  | 4         | _ -   |   | _   | ├-                 |      |                        | 76       | 4            |                                  | Ш               |  | 4       | _        | Щ               |               |          | 126        |          | 4      | ↓_       | Ш            |          | _                       |               | 4        |
|                 | 27       | _        | 4        | -                  | 4         | -   | -   |   | ╀                  |      | $\vdash$               | 77       |              |                                  | Ш               | _  | 4       |          | Ш               |               |          | 127        | _        | 4      | ╄        | Ш            |          | _                       | $\perp$       | 4        |
| -               | 28       | $\dashv$ | -        | $\dashv$           | +         | -   | -   | -   | -                  |      | $\vdash$               | 78       | -            | 4-                               | Н               | -  | +       | +        | Щ               |               |          | 128        | _        | _      | ↓_       | Ш            |          | _                       |               | 4        |
| $\vdash$        | 29       | -        | -        | $\dashv$           | $\dashv$  | +   | +   |   | ╄                  |      |                        | 79       | +            | ┿                                | Н               | $\dashv$   | +       | +        | $\square$       |               |          | 129        | -        | -      | ┼        | Н            |          | -                       |               | 4        |
| -               | 30<br>31 | $\dashv$ | -        | +                  | +         | -   | +   |   | ╁                  |      | $\vdash$               | 80       | +            | +                                | $\vdash$        | +  |         |          | Н               |               |          | 130        |          |        | ┼        | $\vdash$     | -        | -                       |               | 4        |
| $\vdash$        | 32       | -        | +        | $\dashv$           | +         | +   | +   | +   | ╁                  |      |                        | 81<br>82 | ┿            | +-                               | Н               | $\dashv$   | +-      | +-       | $\dashv$        | 1             |          | 131<br>132 |          |        | ╄        | $\vdash$     | $\dashv$ | $\dashv$                |               | 4        |
|                 | 33       | $\dashv$ | $\dashv$ | $\dashv$           | $\dashv$  | +   | +   | +-  | +-                 |      | $\vdash$               | 83       | ┰            | +                                | $\vdash$        | $\dashv$   | +       | +        | $\dashv$        | <b></b> }     |          | 133        | +        | +      | +        | $\vdash$     | $\dashv$ | $\dashv$                | $\dashv$      | $\dashv$ |
|                 | 34       | $\dashv$ | -        | $\dashv$           | +         | +   | +   | +-  | +-                 |      | $\vdash$               | 84       | +            | +                                | $\vdash \vdash$ | $\dashv$   | +       | +        | Н               | ⊪             |          | 134        | +        | +      | ╁        | ╁┼┤          |          | $\dashv$                | +             | $\dashv$ |
|                 | 35       | $\dashv$ | $\dashv$ | 十                  | ┰         | $\dashv$  | $\dashv$  | +   | $\vdash$           |      | $\vdash \vdash \vdash$ | 85       | +            | +                                | $\vdash$        | +  | +       | +-       | $\dashv$        |               | $\dashv$ | 135        | +        | +-     | ╁        | ╁            | $\dashv$ | +                       |               | +        |
| $\vdash$        | 36       | $\dashv$ | $\dashv$ | $\dashv$           | $\dashv$  | 十   | +   | $\dashv$  | $\vdash$           |      |                        | 86       | $\dashv$     | +-                               | $\vdash$        | $\dashv$   | +       |          | $\vdash$        | iiiil         |          | 136        | +        | +-     | $\vdash$ | Н            | $\dashv$ | $\dashv$                | $\dashv$      | 1        |
| М               | 37       | ᅥ        | $\dashv$ | 寸                  | $\top$    | $\top$  | +   | +   | 1                  |      |                        | 87       | +            | +-                               | $\vdash \vdash$ | $\dashv$   | +       | 1        | $\vdash \vdash$ | iii l         |          | 137        | +        | +      | +        | $\vdash$     | $\dashv$ | $\dashv$                | $\dashv$      | $\dashv$ |
| $\Box$          | 38_      | 一        | 十        | 7                  | $\top$    | $\dashv$  | $\top$  | $\dashv$  | T                  |      |                        | 88       | +            | +                                | H               | $\top$   | $\top$  |          | $\dashv$        |               | $\neg$   | 138        | +        | +      | $\vdash$ | $\vdash$     | -        | $\dashv$                | +             | 1        |
| $\Box$          | 39       | $\neg$   | 寸        | $\dashv$           | 7         | $\top$  | $\top$  |   |                    |      |                        | 89       | 1            | $\top$                           | $\sqcap$        | 十  | $\top$  | $\top$   | H               | :::: <b> </b> |          | 139        | 十        | T      | $\vdash$ | H            | $\neg$   | 十                       | +             | 1        |
|                 | 40       |          | $\top$   | $\dashv$           |           | 丁   | 7   |   |                    |      |                        | 90       | $\top$       | T .                              |                 | 十  | $\top$  | 1-       | $\vdash$        |               |          | 140        | $\dashv$ |        |          |              |          | 十                       | $\dashv$      | 1        |
|                 | 41       | コ        | _f       | _                  |           |   | J   |   |                    |      |                        | 91       | $\top$       |                                  | $\Box$          | 十  | T       | $\top$   | П               |               |          | 141        | 十        | Τ      | 1        | $\Box$       | 一        | $\dashv$                | $\top$        | 7        |
|                 | 42       |          |          | I                  |           |   | T   | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{\Box}}}$ |                    |      |                        | 92       | ightharpoons | $oxed{\Box}$                     |                 |  |         |          |                 |               |          | 142        | 丁        | $\top$ | Τ        | П            | $\dashv$ | $\neg$                  |               | 7        |
|                 | 43       |          | $\Box$   | $\Box$             |           | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{\Box}}}$ | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{\Box}}}$ | $oldsymbol{oldsymbol{oldsymbol{\Box}}}$           |                    |      |                        | 93       | I            |                                  |                 |  | I       |          |                 | iiit          |          | 143        |          | Ι      |          |              |          |                         |               | 7        |
|                 | 44       | $\Box$   | $\perp$  | $oldsymbol{\bot}$  | $\perp$   | $\Box$  | $\perp$   |   |                    |      |                        | 94       |              |                                  |                 |  | Ι       |          |                 |               |          | 144        |          |        |          |              |          |                         |               |          |
|                 | 45       |          | $\perp$  | $\perp$            | $\perp$   |   |   |   |                    |      |                        | 95       | $\perp$      |                                  |                 | $oldsymbol{ol}}}}}}}}}}}}}}}}$ |         |          |                 |               |          | 145        |          |        |          |              | $\Box$   |                         |               | ]        |
| $oxed{oxed}$    | 46       |          |          | _[                 |           |   | Ţ   |   |                    |      |                        | 96       |              |                                  | $\Box$          | $oxed{oxed}$   |         |          |                 | [             |          | 146        |          |        |          |              | $\Box$   | $oldsymbol{\mathbb{I}}$ |               | ]        |
| $\sqcup \sqcup$ | 47       | _        | $\perp$  | 4                  | $\perp$   | Ц.  | $\perp$   |   | $\square$          |      | ]                      | 97       | $\perp$      | $\perp$                          |                 | $\perp$  |         |          |                 |               |          | 147        |          |        |          | Ш            |          | $\Box$                  |               |          |
| igsquare        | 48       | _        | $\perp$  | 4                  | $\perp$   | $\perp$   | $\bot$  |   | Ш                  |      |                        | 98       |              | $\perp$                          | $\sqcup$        | $\perp$  | 1       | $\perp$  |                 |               | I        | 148        |          | _      | _        | Ш            |          |                         |               | 1        |
|                 | 49       | _        | 4        | 4                  | 4         | $\bot$  | $\perp$   | - -   |                    |      |                        | 99       |              | $\perp \!\!\! \perp \!\!\! \mid$ | $\Box$          |  | _       | $\perp$  | $\square$       |               |          | 149        | 4        | 1_     | L        | Ш            | _        | $\perp$                 |               | ╛        |
| لــــا          | 50       | $\perp$  | $\perp$  | $oldsymbol{\perp}$ |           | 丄   | $oldsymbol{\perp}$                                |   | $\Box$             |      |                        | 100      |              |                                  |                 | $\perp$  | 1       |          |                 | ::::[         |          | 150        |          |        | 1        | ΙÍ           |          |                         |               | 1        |